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09/671,884	01/10/2001	Shoji Tsuzuki	107927	1918

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EXAMINER

KEBEDE, BROOK

ART UNIT PAPER NUMBER

2823

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/671,884

Applicant(s)

TSUZUKI, SHOJI

Examiner

Brook Kebede

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 4, 10 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. Claims 1-16 are pending in the application.
2. Claims 4, 10 and 16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention, the requirement having been traversed in Paper No 9.

### *Drawings*

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “separating the metal wires and the insulation layer form the base,” as recited in claim 1, line 9, “a step of separating the connection substrate form the base,” as recited in claim 5, line 9 and “a step of separating the connection substrate from the second base,” as recited in claim 11, line 12 must be shown or the feature(s) canceled from the claim(s). Furthermore more the drawings fail to show “the base,” as recited in claims 1-3, 5-9 and “the first and second base,” as recited in claims 11-15 respectively. No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. Claims 1-3, 5-9, and 11-15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for “metal wires and insulating layer; the connection

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substrate” as recited in claims 1, 5 and 11 respectively, the specification does not reasonably provide enablement for “separating the metal wires and the insulation layer form the base,” as recited in claim 1, line 9, “a step of separating the connection substrate form the base,” as recited in claim 5, line 9 and “a step of separating the connection substrate from the second base,” as recited in claim 11, line 12. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claim 1 recites the limitation “separating the metal wires and the insulation layer” in line 9. However, the specification as well as the drawings fail to provide an enablement to show how the metal wires and the insulation layer being separated from the base. Therefore, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claim 5 recites the limitation “a step of separating the connection substrate form the base” in line 9. Since the specification as well as the drawings fail to provide an enablement to show how the connection substrate being separated from the base, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claim 11 recites the limitation “a step of separating the connection substrate from the second base” line 12. Since the specification as well as the drawings fail to provide an enablement to show how the connection substrate being separated from the second base, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claims 2, 3, 6-9, and 12-15 are also rejected as being dependent of the rejected independent base claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 2, 5-7, 9, 11 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al. (US/5,977,641).

Re claim 1, Takahashi et al. disclose a method of manufacturing a connection substrate, comprising steps of: forming a metal wire (11 15) on a base (1) ; applying an insulating material (12) onto the metal wire to form an insulation layer (12); forming another metal wire (13) on the insulation layer (12), thereby connecting the metal wires (11 15 13) which sandwich the insulation layer (12), through a contact hole (17) formed in the insulation layer (12); and separating the metal wires (11 15 13) and the insulation layer (12) from the base (1) (see Figs. 3A-4C).

Re claim 2, as applied to claim 1 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein the step of applying an insulating material onto the metal wire, and the step of forming another metal wire, thereby connecting the metal wires are repeated at least two times (see Figs. 3A-4C).

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Re claim 5, Takahashi et al. disclose a method of manufacturing a semiconductor device, comprising: a step of forming a connection substrate on a base, comprising, forming a metal wire on a base (11 15), applying an insulating material (12) onto the metal wire (11 15) to form an insulation layer (12), and forming another metal wire (13) on the insulation layer (12), thereby connecting the metal wires (11 15 13) which sandwich the insulation layer (12) through contact hole(17) formed in the insulation layer (12); a step of mounting a semiconductor chip on the metal wire which is bared; and a step of separating the connection substrate from the base (see Figs. 3A – 4C).

Re claim 6, as applied to claim 5 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein a plurality of the semiconductor chips are mounted on the connection substrate (see Figs. 1-4C; Col. 1, line 5 – Col. 3, line 62).

Re claim 7, as applied to claim 5 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein in the step of forming a connection substrate, the step of applying an insulating material onto the metal wire and the step of forming another metal wire, thereby connecting the metal wires are repeated at least two times (see Figs. 3 – 4C)

Re claim 9, as applied to claim 5 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein the base comprises silicon (see Figs. 3 – 4C)

Re claim 11, Takahashi et al. disclose a method of manufacturing a semiconductor device, comprising: a step of forming a connection substrate on the base, comprising, forming a metal wire to be connected to an electrode formed on a semiconductor chip, on a first base, applying an insulating material onto the metal wire to form an insulation layer, and forming another metal wire on the insulation layer, thereby connecting the metal wires which sandwich

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the insulation layer, through a contact hole formed in the insulation layer; a step of disposing a second base on the connection substrate; a step of separating the first base from the connection substrate; a step of mounting a semiconductor chip on the metal wire that is a step of separating the connection substrate from the second base (see Figs. 1-4C; Col. 1, line 5 – Col. 3, line 62).

Re claim 13, as applied to claim 11 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein the second base comprises silicon (see Figs. 1-4C; Col. 1, line 5 – Col. 3, line 62).

Re claim 14, as applied to claim 11 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein a plurality of the semiconductor chips are mounted on the connection substrate (see Figs. 1-4C; Col. 1, line 5 – Col. 3, line 62).

Re claim 15, as applied to claim 11 above, Takahashi et al. disclose all the claimed limitations including the limitation wherein in the step of forming a connection substrate the step of applying an insulating material onto the metal, and the step of forming another metal wire, thereby connecting the metal wires are repeated at least two times (see Figs. 1-4C; Col. 1, line 5 – Col. 3, line 62).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US/5,977,641).

Re claim 3, as applied to claim 1 above, Takahashi et al. disclose all the claimed limitations. With regarding the limitation the base substrate comprises glass Examiner takes an Official notice because it is well-known in the art to use a glass substrate for packaging. See *In re Malcolm*, 129 F.2d 529, 54 USPQ 235 (CCPA 1942). See *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970).

Re claim 8, as applied to claim 5 above, Takahashi et al. disclose all the claimed limitations. With regarding the limitation the base substrate comprises glass Examiner takes an Official notice because it is well-known in the art to use a glass substrate for packaging. See *In re Malcolm*, 129 F.2d 529, 54 USPQ 235 (CCPA 1942). See *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970).

Re claim 12, as applied to claim 11 above, Takahashi et al. disclose all the claimed limitations. With regarding the limitation the base substrate comprises glass Examiner takes an Official notice because it is well-known in the art to use a glass substrate for packaging. See *In re Malcolm*, 129 F.2d 529, 54 USPQ 235 (CCPA 1942). See *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970).

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-3, 5-9 and 11-15 have been considered but are moot in view of the new ground(s) of rejection that is set forth in Paragraph 3 herein above. Since rejection that was set forth in Paragraph 3 was not applied in the prior Office action, this Office action is a **non-final** Office action.

#### ***Conclusion***

11. **THIS ACTION IS MADE NON-FINAL.**



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*Correspondence*


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (703) 306-4511. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Brook Kebede

  
November 14, 2002

  
Olik Chaudhuri  
Supervisor  
Art Unit 2823  
November 14, 2002